KNOWLEDGE

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OFFICIAL SAFETY INFORMATION OF THE U.S. ARMY

BACK ON TRACK

U.S. ARMY

ARMY STRONG.

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FROM THE DASAF

GETTING RIDING RIGHT

With snow and freezing temperatures persisting throughout much of the United States well into April, it's safe to say this winter has been particularly long and hard. That's why, when the weather finally warms, Soldiers across our Army will be more eager than ever to bring their motorcycles out of storage. Hopefully you've already been talking to your riders about motorcycle safety, but May — as Motorcycle Safety Awareness Month — presents a perfect opportunity for you to either catch up on or reinforce the conversation.

Motorcycle accidents have been a persistent problem within the Army for some time. From fiscal 2003 to fiscal 2012, nearly 400 Soldiers were killed while operating a motorcycle. During that same time frame, approximately 500 Soldiers died in sedan accidents. That's a pretty slim margin when you consider the overwhelming number of sedan drivers versus motorcycle riders in the Army, and it highlights the fact that motorcycle fatalities have grown nearly every year as deaths in most other accident categories have fallen. We have to stop this now, for we can't afford another deadly summer on America's highways.

It's not my intention to pick on a particular group of riders, but accident data support the argument we should be aggressively targeting sport bike owners in our motorcycle safety programs. Last fiscal year, 59 percent of fatalities involved a sport bike; that figure has climbed to 67 percent to date this fiscal year. Age and rank are also a critical part of the equation: Of the 49 fatal motorcycle accidents reported during fiscal 2012, well over half involved a leader, and all but two of the nine Soldiers killed on motorcycles so far this year were older than 25.

One common theme spans a majority of motorcycle accident reports, regardless of age or pay grade — indiscipline. Whether it's speeding, riding without personal protective equipment or failing to complete required training, indiscipline is now a known entity we must confront. The fact we're seeing it in leaders is perhaps the most troubling aspect of all, that some of the individuals we've entrusted to care for Soldiers are failing them on a very grand scale. The loss of a leader to a preventable accident that ultimately was his or her own fault has to be a devastating experience for young Soldiers still finding their way as adults.

These are the trends from the past several years, and it has caused us to take a hard look at the way we approach safety. Like many of you, I came up through the Army believing 18- to 25-year-olds were our problem demographic, and they still are in sedan accidents. But leader and older Soldier involvement in motorcycle mishaps is still relatively new territory, although one we learn from every day. That's why May is such an opportune time to engage with not only your Soldiers, but also your leaders about motorcycle safety and indiscipline, to relay lessons learned early in the riding season with the goal of preventing future accidents.

Of course, the USACR/Safety Center is here to help with programs and tools. The Progressive Motorcycle Program, which promotes lifelong learning and was mandated by recent revision to Army Regulation 385-10, appears to be paying dividends in terms of fewer motorcycle fatalities thus far this year as compared to the same time frame in 2012. We're currently conducting a beta test at one Army installation to take the training one step further and incorporate a behavioral component into the Basic RiderCourse, thereby teaching Soldiers to make smart decisions on the road before they develop bad habits. I'll keep you informed of the progress on this initiative as it moves forward, but until then, ensure your Soldiers' training is up to date and point them to the numerous rider resources available at https://safety.army.mil.

Finally, we have to remember the risks our Soldiers will be facing this summer reach far beyond motorcycles. Sedan and other PMV fatalities are almost guaranteed to rise between now and October, along with deaths related to drowning. We'll need to be just as cognizant of these hazards and channel our efforts to mitigating them during these next few months.

Thank you all for the fantastic job you're doing for safety — we're here because of your hard work. I look forward to seeing even more improvements these last days of spring and throughout the summer. Use the tools we have, and please let me know how we can further help.

Army Safe is Army Strong!

TIMOTHY J. EDENS
Brigadier General, USA
Director of Army Safety

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U.S. ARMY COMBAT READINESS/SAFETY CENTER

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BACK ON TRACK

RETIRED SGT. 1ST CLASS WILLIE E. CARTER
Fort Hood, Texas

It was mid-afternoon on a Thursday when I received a phone call from my best friend asking if I could help him move some furniture. Although I was tired from staff duty the night before, I told him I would be right over. I figured if we could knock out the move quickly, I could get back home to rest. I decided to take my motorcycle, so I threw on an old flight suit and the required personal protective equipment to make the five-mile ride. Little did I know that this ride would change my life forever.

As I traveled along a two-lane road to my friend's home, I approached a tractor-trailer with its turn signal on, indicating the driver intended to make a left-hand turn in front of me. I slowed to ensure the driver saw me approaching, but as I got about 20 feet away, the driver turned. After striking the truck, I was thrown between the cab and trailer and landed 30 feet on the other side. In shock, I jumped up but immediately collapsed back to the ground. I then realized I couldn't feel my legs. I thought my life was over.

Fortunately, after two surgeries and 30 days in the intensive care unit, I managed to walk away from this incident with a minor back injury and a blown left knee that I had reconstructed a few months later. Once I fully healed, I returned to street riding, but I could not get past my accident. Every car, truck or turn scared me to death. I didn't know what to do. But I couldn't stay away from my motorcycle — riding was my life!

My riding future was looking pretty bleak when a fellow street rider introduced me to track day riding. He told me I could go as fast as I wanted without the fear of cars, tractor-trailers or wildlife getting in my way because the riding takes place in a controlled environment. This sounded like the perfect solution to my problem.

After my first ride, I was hooked. In fact, it gave me a new appreciation for riding. There are some tradeoffs, though. Here are some measures you'll have to take before participating in track day riding:

Protective Gear

Track day riding requires special PPE to keep riders safe, including:

- An undamaged, full-face Department of Transportation- or Snell-approved helmet

- Full-leather gloves that cover the wrist by two inches

- Leather boots that cover the ankle and protect the shins

- A one-piece, full-leather race suit

- For extra protection, riders can also add chest and back protectors, padded hip under-garment shorts and hearing protection

As you can see, track day riding can be expensive. However, the cost of the equipment is minimal when you compare it to the value of the lives of those participating. In my opinion, it's money well spent. I purchased the best gear that I could afford because I wanted the best protection available. Cheap gear doesn't offer the best protection. Remember, you get what you pay for.

Bike Prep

There are a few requirements your motorcycle must undergo before you can ride, including:

- Tires and brakes should be in new or nearly new condition

- Disconnect or remove the fuses for the lights (check to ensure the bike operates normally after this step)

- Tape over all lenses and mirrors. No lights should be visible or "bleed through." Also tape over the speedometer. The reason for taping is to eliminate the distractions to you and fellow riders. By reducing distractions, we're able to focus on what is important — rider safety!

- The bike does not need to be safety wired, but wiring the oil drain and fill caps is highly recommended and easy to do.

- Taping wheel weights is required. Duct tape works well.

- Draining the antifreeze and replacing it with pure water or water wetter additive is recommended but not required.

Tech Inspection

The final step before you can ride on the track is to have a technical inspection performed on the bike and your equipment. This will be performed at the track by certified personnel. Helmets and all riding gear must be presented at the tech inspection area. Precision staff will perform an overall visual and tactile assessment checking for issues such as leaks, loose fittings or other safety concerns. Your bike and gear must pass tech inspection each day before getting on the track. Other inspection items include:

- Crisp throttle return mechanism

- Hand controls are intact, with properly tightened levers and grips in good condition

- Foot controls properly attached and nothing loose or with excessive play and no missing bolts

- Chain properly adjusted — generally one inch of slack above the swing arm, but check your owner's manual for manufacturer recommended tension and adjust prior to event

- Tires in new or nearly new condition

- Wheel weights securely taped (use duct tape or something similar)

Now that you know your bike is safe for the track, you must determine what ability group/level you need to ride. The groups are based on skill level and track experience. There are three levels — beginner, intermediate and advanced street rider/racer. The beginner and intermediate groups offer classroom instruction to teach you proper riding techniques and the proper race line around the track. This is the key to going around the track in a fast and safe manner.

For me, track day riding opened up a whole new world of motorcycle enjoyment. It's also the perfect option for those who want to fulfill their need for speed. If you're looking for a new challenge, take that sport bike to the track and stop racing down public streets. You're only putting your life and the lives of others in danger.

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SHOCKING HAZARDS

MIKE EVANS
Civilian Injury Prevention Directorate
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

Each year, electricity injures or kills more than a dozen Soldiers and civilians. That might not sound like a lot , but what's frustrating is most electrical-related accidents are the result of human error. Soldiers and civilians often don't use proper protective equipment or correctly follow the procedures to ensure an electrical source is not energized before servicing it. In addition to these injuries and deaths, the Army loses an average of five vehicles and two buildings to electrical fires annually.

These incidents aren't specific to the Army. Nationwide, home electrical failures or malfunctions cause more than 50,000 fires each year, resulting in 450 deaths, nearly 1,500 injuries and about $1.5 billion in property damage, according to the National Fire Protection Association. To help prevent these incidents, it's vital folks know the ins and outs of their electrical systems and the safety concerns associated with the latest residential technologies before bringing them into their homes.

There are simple improvements that can be made to any home or office to increase electrical safety without undertaking a major renovation. This includes installing arc fault circuit interrupters that prevent fires by detecting hazardous arcing conditions, ground fault circuit interrupters that thwart shocks and tamper-resistant receptacles that replace standard wall outlets to protect children from shocks and burns.

We hear a lot about the electric vehicles, smart meters and renewable energy sources. Yet, there's not a lot of information readily available to educate consumers about the potential electrical safety hazards. Everyone in the Army family needs to be educated about these new technologies and have an electrical system evaluation performed before adding new components to their home.

At work, the newly released Department of the Army Pamphlet 385-26, The Army Electrical Safety Program, dated Feb. 1, 2013, provides electrical safety guidance to protect Army personnel, facilities and equipment against electrical hazards. The publication covers a myriad of topics, including electrical safety requirements, tactical electrical safety and electrical safety for all Army activities.

Safety awareness and education are key in preventing electrical fires, injuries and fatalities. Get the facts and don't get zapped!

FYI

May is National Electrical Safety Month, and safety professionals here at the U.S. Army Combat Readiness/Safety Center are happy to provide material to raise awareness about potential home hazards and the importance of electrical safety. The Electrical Safety Foundation International sponsors National Electrical Safety Month to increase public awareness of the electrical hazards around us at home, work, school and play.

This year's awareness program educates the public about emerging technologies and the electrical hazards associated with them. These technologies include electric vehicles, solar power, wind power and smart meters.

For more information about ESFI and electrical safety, visit www.electrical-safety.org. The USACR/Safety Center's electrical safety awareness program provides information and tools in an effort to help organizations plan and execute National Electrical Safety Month activities. To learn more, visit https://safety.army.mil/soh/INDUSTRIALSAFETY/Electrical/tabid/547/Default.aspx.

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A DEADLY COMBINATION

1ST LT. JASON T. COWAN
890th Engineer Battalion
Mississippi Army National Guard
Gulfport, Miss.

Growing up in the early 1980s in Mississippi, I performed a number of unsafe activities on a daily basis — whether just for fun or because nobody knew any better. We flew through the woods on dirt bikes, jumped off bridges into the creeks below and operated large farm equipment at way too early an age, just to name a few. I remember being 5 years old and riding on the fender of my grandfather's tractor while he ran the disc over his field before planting crops, usually at a pretty good rate of speed. Looking back, one slip is all it would have taken for me to have been chopped to pieces!

As I got older and wiser, I saw the risks in these activities and, for the most part, avoided them altogether. Nowadays, the only real inherently unsafe activity I perform on a routine basis is riding an all-terrain vehicle — or as we call it in the South, four-wheeler riding.

Throughout my 25 years of riding, I've seen many injuries that could've been avoided had it not been for one thing — alcohol. Of course, when we were younger, my friends and I were not riding around drinking beer. As I got older, though, I saw it happening more and more. It seemed like every time we got together to ride on the weekends, everyone brought their own cooler packed with beer.

My regular riding group was comprised of folks of all ages and experience levels, including a local law enforcement detective. The one thing we had in common was the enjoyment of regular beer breaks. It was as much a social experience as riding experience. Nobody was ever concerned or took into account the fact that this was not only illegal, but also completely unsafe.

It wasn't until about five years ago that I realized how alcohol affected me as a rider. A friend and I were riding in a spot we had been to dozens of times, and nothing was out of the ordinary except for the fact that I'd had a few beers over the course of the last couple of hours. We came to a ravine about 20 feet deep that I had passed many times before. What was different today, though, is that all of a sudden it looked like a very good challenge to test my skills as a rider.

After stepping off my ATV to get a better look at the ravine, I decided I should have no problem negotiating to the other side. Upon the initial descent, however, my front left tire went into a hole covered with brush, and the four-wheeler began to roll forward and to the left. I immediately bailed off the side, rolled down the ravine and landed at the bottom in some thick mud and water. The four-wheeler tumbled behind me and landed on my arm, pinning it. My buddy jumped down to help free me, and we eventually recovered my four-wheeler from the ravine.

When I got home, I realized how lucky I'd been. The whole reason I'd tried to negotiate the ravine in the first place was because my judgment was clouded by alcohol. To this day, I don't have even a sip of alcohol if I know I'm going to be riding my four-wheeler. And during our breaks, I make sure and have a fresh pouch of Levi Garrett instead of a cooler full of Bud Light.

We, as leaders, must understand the activities our younger troops are participating in during their down time. Many of you may not know that alcohol is so prevalent in recreational four-wheeling, especially if you've never been a rider. If you have a young Soldier heading out for a weekend of ATV riding, make sure he or she understands the importance or abstaining from alcohol. You might just save a life.

THAT NEVER-AGAIN MOMENT

CHIEF WARRANT OFFICER 2 STATON WEST
B Company, 1st Military Intelligence Battalion (Aerial Exploitation)
Wiesbaden Army Airfield, Germany

Have you ever made a mistake? Of course not, but I have — many of them. I've made mistakes while flying helicopters and airplanes in the Army and even while piloting my own personal aircraft. I've made mistakes as a 250-hour pilot and a 2,500-hour pilot. Fortunately, my errors amounted to nothing more than a bruised ego and a subsequent barrage of thankful prayers. I am more adept at forgiving myself for errors due to ignorance than the ones due to stupidity — the "never-again" moments from which I miraculously walked away seemingly unscathed. The good news is I learned my lesson on many accounts and pledge to never again have a never-again moment.

Early in my military career, I led a forward support medevac team during an operation in Saudi Arabia. It was an exciting time for me as a junior Army leader and as a newly designated UH-60 Black Hawk pilot-in-command. The three-month deployment was less than challenging. Although we were poised to respond around the clock to medical emergencies on and near the airbase, the call never came. This is a good thing, obviously, for our military beneficiaries, but not so much for a group of bored aviators. This boredom manifested itself during our training and the incentive flights we conducted for our Air Force counterparts at Prince Sultan Air Base.

I could easily blame the group of hoopin' and hollerin' jet jocks strapped in the back of my Black Hawk for spurring me down to 15 feet (yes, 15 feet!) above ground level at 135 knots indicated airspeed, but I won't. It was all me and a desire to appear as equally skilled and cool as my passengers. The never-again moment — the one that truly changed my life — happened on a subsequent flight.

Apparently, 135 knots while only 15 feet off the deck wasn't cool enough. I just had to push it further to make sure my passengers got the ride of their lives. A moment of both ignorance and stupidity, I had no business doing the maneuver that led to loss of tail rotor effectiveness — a condition almost unheard of in the Black Hawk. In about 0.72 seconds, an eternity, the tail of the helicopter spun out of control by about 270 degrees. The F-16 pilots strapped in the back cheered, Igor Sikorsky shrugged, I prayed and cursed at the same time, while God smiled upon us all that day and sent the ship home at a nice and easy 100 knots 500 feet AGL.

Never again.

Other mistakes have been less deliberate but equally stupid (read: human) like the time I attempted to depart in my AA1 Yankee with the tow bar still attached to the nose wheel. Bless the nearby transient pilot who called my attention to it. Again, a bruised ego was the result, particularly since my not-so-much-into-flying-in-small-airplanes wife was with me. Glad it wasn't our first date!

There are the honest mistakes that rest in what I like to call "experience." These are the ones from which I have learned a lot about … well, almost everything, particularly about flying and aviation in general. None of us like to err, but the fact is we inevitably will, so it is incumbent upon us all as professionals to learn from our and others mistakes. This can only happen if we agree to openly air our errors with the hope that others can benefit from the lessons that come from making mistakes.

No matter the scope or scale of one's participation in aviation, we, as participants, are all part of a system. And because we are human participants in this complex system, errors — even chains of errors — exist. Learning from the experiences of others, both good and not-so-good experiences, is a safe and efficient way to learn. Sitting around a group of pilots telling "so-there-I-was-inverted-pulling-so-many-Gs-I-was-in-the-Hs" stories is valuable time spent. No matter if the stories are true, half true or far from the truth, there is usually a lesson to be learned. This is why it is so important to have a mentor or network of individuals with whom we can share our stories and experiences.

That never-again moment you share with others will most likely be met with a "been there, done that" response or two. Perhaps not, but know that you just imparted a bit knowledge based on experience that one day may enable others to break the error chain.

FYI

Author's note: In my opinion, NASA's Aviation Safety Reporting System is perhaps one of the most innovative and necessary aviation safety programs in history. This cooperative safety reporting program invites pilots, controllers, flight attendants, maintenance personnel, dispatchers and other users of the national airspace system or any other person to report to NASA actual or potential discrepancies and deficiencies involving the safety of aviation operations. The effectiveness of this program in improving safety depends on the free, unrestricted flow of information from the users of the NAS. Based on information obtained from this program, the Federal Aviation Administration will take corrective action as necessary to remedy defects or deficiencies in the NAS. (http://asrs.arc.nasa.gov/overview)

The key words in the preceding paragraph are "free, unrestricted flow of information." This is possible due to the non-punitive nature of the program, thereby giving would-be respondents freedom to openly report errors or discrepancies without fear of reprisal – unless of course errors are the result of gross or criminal negligence or in blatant violation of Title 14 of the Code of Federal Regulations (14 CFR).

Certainly there are obvious circumstances when it is appropriate to assert blame due to willful misconduct; however, such instances are fortunately few and far between in aviation. Efforts to uncover the anatomy of human error in aviation benefit more from a systemic approach rather than a "name, blame and shame" approach. In other words, inevitably there exists a chain of events — latent conditions that enable these events to occur at precisely the right moments within a given system — that ultimately leads to an accident. Error reporting programs such as NASA's ASRS are used to seek and correct system deficiencies in an effort to break error chains. The organization publishes a monthly newsletter entitled "CALLBACK" which highlights lessons learned from various incidents and a wide variety of topics. Download current and back issues at http://asrs.arc.nasa.gov/publications/callback.html.

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CRASH COURSE

CHIEF WARRANT OFFICER 2 JOSEPH A. GALBRAITH
A Company, 2nd General Support Aviation Battalion, 211th Aviation Regiment
Utah Army National Guard
West Jordan, Utah

My brother and I grew up biking all over the mountains of Utah and considered ourselves fairly experienced riders. So when our town celebrated the grand opening of a state-of-the-art mountain bike park, we couldn't wait to hit the trails.

After a few runs down the mountain, we decided to try the jump course. This portion of the course was a mixture of dirt and rocks and consisted of a series of four jumps that were about five feet tall. I hadn't attempted a course like this before, but I was game.

During my first run, I negotiated the first three jumps easily. By the time I approached the final jump, however, I'd picked up a lot of speed. As I crested the top of the ramp, I took flight, but my bike stayed on the ground. I was able to come back down on the bike, but all control was lost and I crashed into the dirt, landing on my side.

Even though my day ended with a trip to the emergency room, I consider myself lucky. While I received seven stitches to my right elbow, my helmet protected me from being seriously injured. In retrospect, I could've prevented my accident had I not been overconfident in my abilities.

There are many different types of recreational bicycling, including downhill, cross-country and BMX. Mountain bikes are different from other varieties in that they are usually full-suspension, meaning the front and rear forks are suspended to provide comfort and stability. As the design has evolved, so has the use of the mountain bike. Today, a mountain bike is similar to a motocross motorcycle without the engine. These newer designs have proven safer; however, they also allow the rider to push the limits. Riders go faster through rougher terrain than ever before. Because of these situations, a crash can be devastating. Fortunately, personal protective equipment has also evolved, and riders are wearing full-face helmets and full-body padding to soften the impact of a potential crash.

No matter what type of riding you do, it is important to assess the situation and determine what type of equipment is appropriate. If this sounds familiar, it should be because it is part of the risk management process. In my case, I was attempting to soar through the air on a bike designed for cross-country-type terrain, not high-speed jumps. I was also wearing PPE that would be appropriate for cross-country trails instead of the full-face helmet and pads needed for those types of jumps.

I only have a small scar to remind me of my accident. It serves as a reminder that I should assess the situation and ride within my abilities. Thinking before we ride can ensure we ride another day.

Did You Know?

Over the last five fiscal years, we lost an average of 133 Soldiers to off-duty accidents each year. We, as an Army, can change this. To assist you, we have updated and improved the annual Off-Duty Safety Awareness Presentation. You can view or download the presentation and notes from https://safety.army.mil/ODSAP or the U.S. Army Combat Readiness/Safety Center's home page. The materials and statistics contained in this year's presentation, titled

"What Have YOU Done to Save a Life Today?" enhance safety awareness for numerous off-duty activities, as well as home safety, and address risky behaviors and the impact of fatigue and alcohol.

Developed for use at battalion level and below, the presentation comes complete with embedded videos and speaker notes. The speaker notes can be used as is or modified to fit your presentation style or to reflect what's happening in your unit. Please share it with your Soldiers. Our goal is to assist you in making every Soldier aware of the off-duty hazards they face in the upcoming months and to let them know that they can be part of the solution in preventing the next accident and needless loss of lives.

FYI

Here are some considerations you can use as part of your own risk management process when it comes to bike safety:

DON'T

- Ride beyond your ability. Overconfidence is a leading cause of injury in all accidents. Find out if there are any difficulty ratings for the trail before you go.

- Ride alone. Always ride with a buddy, especially if you are traversing remote trails that are not easily accessible to emergency services.

- Wear Earphones. Army Regulation 385-10 prohibits the wearing of audio devices with earphones on military installations. Why should we relax the standard off-post?

- Speed. Speeding can easily lead to loss of control and injury to yourself and other riders.

DO

- Wear the proper PPE. Determine the proper PPE needed for the type of riding you will be doing.

- Know your trail or course. Study the trail before you ride. This will help you know what to expect and prevent disorientation.

- Be prepared. Ensure you pack plenty of water and necessary food. Also, bring extra tubes and tools and a pump. A GPS is also a good idea.

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CORNERING CONTROL PART II: CORNERING LINES

DAVID L. HOUGH
http://www.soundrider.com

Editor's note: In the April issue of Knowledge, author David L. Hough provided Part I of his tips on how riders can safely maintain control of their motorcycles when riding in a curve. In this issue, Hough offers Part II of the installment, "Cornering Lines."

One of the advantages of a narrow two-wheeler is that you can follow lines through corners that not only provide better traction, but also decrease the risk of a collision. Yes, you can just follow one of the car wheel tracks through a corner, but that doesn't necessarily decrease the risks. Riding a motorcycle, you can use the entire lane, straightening out curves. The straighter your line through a corner, the less the demand on tire traction, which helps avoid a slide-out.

It's also important to improve the view ahead because what you can see is a big factor in how fast you can corner. To avoid sticking out your neck too far, you always need to be able to bring the bike to a stop within the roadway you can see. You have to assume there will be hazards in the road halfway around, even if you can't see them yet. And when you're rounding a right-hand corner, your sight distance typically gets shortened by the shape of the landscape.

The best way to maximize the view is to enter corners from the outside of the turn. That is, approaching a right-hander, make your turn-in from a position closer to the centerline. For a left-hander, make your turn-in closer to the right edge of the pavement.

Sideswipe Zones

It's also a high priority to avoid getting sideswiped by oncoming vehicles. It might seem prudent to just stay away from the centerline all the time, but that's not necessary. Drivers tend to wander over the line in specific areas, and it's only necessary to avoid those areas. Consider how an oncoming driver sees the road. There is a tendency to enter curves too fast, cut toward the inside too early, then drift wider in the last half of the curve. So you don't need to avoid the centerline all the time; you only need to avoid those sideswipe areas. As it happens, entering a curve from the outside allows you to cut toward the outside of your lane at the critical zones, increasing your distance from potentially wandering drivers.

Surface Camber

Those twisty secondary roads we enjoy typically have lots of crown in the center, with the pavement on either side slanting off (cambered) toward the edges of the road. A steep camber in a right-hander works to your advantage; but a steep camber in a left-hander works against you, decreasing traction and eating up leanover clearance.

Consider one motorcyclist following the center of the lane (the car line) compared to another motorcyclist following a straighter line (the bike line). Not only does the bike line keep the motorcycle more vertical, it also places it in the lane to take advantage of a crowned road. Entering a turn from the outside helps make the best of a well-cambered surface. Entering a right-hander, you can carve over toward the right edge of the pavement where the camber is steepest. Entering a left-hander, you can ease over toward the center of the road where it's more level.

We often describe our cornering lines in terms of the apex — the imaginary point where the motorcycle passes closest to the inside of the curve. The location of the apex determines the shape of your line. If you turn in early and point the bike toward the inside of the curve too soon, you'll pass by an "early" apex. The problem with an early apex is that you're tempted to carry too much speed into the turn, and then halfway around, realize you're running wide.

Imagine a delayed apex somewhat farther around the turn. In a right-hander, you'll need to make your turn-in closer to the centerline, and a bit later. In a left-hander, the turn-in point should be close to the outside edge of the road. The delayed apex (sometimes called a late apex) provides a better view ahead, conserves traction during the last half of the turn, keeps you away from those sideswipe zones and points the bike more around the curve. A delayed apex line is a good idea for riding public roads where anything can happen.

Let's imagine an ideal delayed apex line through a blind right-hand curve. You don't have to see the actual position of your imagined apex, just mentally slide it a little farther around the corner than where you think the actual road apex might be. A delayed apex line works just as well in a left turn, with your imagined apex along the centerline, a little farther around the turn.

Editor's note: For the final installment of this topic, see "Corning Control Part III: The Throttle" in the June issue of Knowledge.

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WHO'S IN YOUR AIRSPACE?

COMPILED BY THE KNOWLEDGE STAFF

Have you ever been surprised by an unmanned aircraft system sharing the same airspace? I think a significant number of Army aviators would say they have.

There are many control measures in place to help aviators avoid mid-air collisions, one of them being "see and avoid." But what control measures do the operators of the UAS community have in place? What raises concern for most trained aviators is the "unmanned" part. Extra caution should be exercised when aviators share airspace with UAS equipment because they are unmanned.

Increased development and use of UAS for both the military and civilian sectors has created a necessity for control measures to ensure safe operation. The concern we have is legitimate, but we should be confident in operating around unmanned aircraft knowing their operations are regulated and safety control measures are in place.

There are many UAS applications. Most are now overseas for combat operations, but there could be increased use within the U.S. for homeland security, civilian cargo operations and law enforcement. UAS are controlled either manually or through an autopilot using a data link to connect the pilot to their aircraft, and the number of them in the sky is increasing.

In the U.S., about 50 companies, universities and government organizations are developing and producing roughly 155 unmanned aircraft designs, according to the Federal Register. As late as October 2005, the Federal Aviation Administration had no pilot certification **processes or procedures for UAS pilots** in place for operating an aircraft in the National Airspace System. The Army, Department of Defense and FAA, through the input of many experts in numerous organizations, have now established regulations, training requirements, standard operating procedures and restrictions to allow UASs to operate safely in both combat environments and the NAS.

Typically, military UAS operate within restricted airspace, and details of their operations are highlighted in notices to airmen, both local and FAA. The increased use of the UAS in the NAS has led the FAA to move toward implementing requirements such as a Certificate of Authorization or Special Federal Aviation Regulations. The COA is a waiver authorizing UASs to operate under specified conditions in a specified location and have typically been reserved for government agency use.

Most UAS operators and entities have been aligned with their corresponding aviation counterparts, allowing safer operations. The Army has moved UAS operations to the aviation branch, which operates in accordance with Army Regulation 95-23. Aligning UAS operations with Army aviation has enhanced safety in areas such as training, qualification requirements and currency requirements.

As operations and systems have grown, safety considerations will continue to be discussed and improved. One challenging safety consideration is the see-and-avoid aspect of collision avoidance because UAS are designed to look down and not around. Currently, there are control measures in place, such as training requirements and regulations, which improve the safe operation of both manned and unmanned aircraft in the same airspace. Understanding UAS operations and becoming familiar with their operators' requirements will allow those of us flying the manned assets to share airspace safely both in combat and the NAS.

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STUMPED

RETIRED SERGEANT 1ST CLASS BILLY SHOCKLEY
Enterprise, Ala.

While stationed at what was then known as Fort Lewis, Wash., I was an avid boater. My family and I frequently took boating trips, and I was confident in my abilities. All my boating experiences to this point had been fun and trouble free.

During a PCS to Fort Rucker, Ala., I purchased a boat during the road trip to my new assignment. Once settled, my wife and I decided to try our luck fishing on post at Lake Tholocco. It was a sunny day — not too hot and not too cool.

Although I wasn't familiar with my new boat, I was sure I could handle it. As we prepared to launch, my wife pointed out the outdoor recreation building and suggested we stop in and scope things out. Being stubborn, I confidently told her, "Nah, I've got this." Besides, before entering the water, I read the signs posted next to the launch showing the direction of travel on the lake for boaters. See, I did have some knowledge.

Cruising around at a leisurely pace so I could get familiar with my boat, we explored the lake. Then something caught my attention at the far end of the lake. Several Jet Skis were buzzing around, and I decided to check them out.

As I approached the area, the water became shallower. I didn't think that would be a problem. What I didn't take into account, however, was the fact that my boat was heavier than the Jet Skis and I should take some precautions as I proceeded. Suddenly, I felt a slight bump in the steering control. My first thought was I had a stiff steering wheel that needed breaking in. Boy, I was wrong.

As I looked in the water, I could see tree stumps. I let off the throttle quickly, and my wife and I looked at each other in disbelief as the boat came to a sudden stop. There I was hung up on tree stumps in a lake!

Not taking the time to learn about the lake and all of its associated hazards proved costly for me that day. My boat only sustained minor damages, but my ego definitely took a blow. Even though my wife and I took precautions such as wearing our life jackets and ensuring we had lifesaving equipment onboard, I overlooked a very basic fundamental of boating — knowing the layout of the lake.

If I'd listened to my wife and stopped at the outdoor recreation office, I would've known there were stumps under the water. The lakes we boated on in Washington didn't have those types of hazards, and I assumed this one was no different. Also, before heading out on any body of water, take the time to get familiar with state, local and post regulations for operating a boat. Trust me, you'll be glad you did.

FYI

According to the U.S. Coast Guard, each year, hundreds of lives are lost, thousands are injured and millions of dollars of property damage occurs because of preventable recreational boating accidents on U.S. waterways. Too often, pleasure outings turn tragic. You — as a boat operator, passenger or concerned individual — can make a difference. Visit http://www.uscgboating.org/safety/default.aspx to learn more.

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THE ALL-NIGHTER

LT. COL. EDWARD C. GUILFORD JR.
Installation Safety Office
Camp Atterbury, Ind.

It was another Army class away from my family, but they were not strangers to me being gone. After three deployments, my wife and kids were accustomed to Dad leaving. We were all grateful this trip would last only six weeks. But with winter approaching, there were a lot of projects on the home front that needed my attention before I left.

Class was scheduled to begin on a Thursday, and the welcome packet stated that we should arrive a day early. However, we weren't required to sign in until class started. My plan was to leave Wednesday morning after taking our two youngest children to school. Unfortunately, I wasn't as far along on the house projects as I wanted to be, so I came back home after dropping them off.

My oldest son usually took up the slack while I was gone, but he was now away at college, so it was up to me to finish them. All I had left to do was cut the grass, vacuum the pool and put on the cover, and pack up for the trip. How long could that take? Of course, these things never go as planned, and time quickly slipped away. Before I knew it, I was starting an 11-hour trip at 9 p.m. Class began the next day at 7:30 a.m., so I had no other choice but to drive through the night.

Although I'd pulled many an all-nighter in college, I was getting a little too old for this. We'd taken a few all-night trips for vacations when the kids were younger, but I had always planned better. I would sleep for several hours before departing, and I had my wife as a very capable assistant driver. That was not the case for this trip — no nap or a-driver this time.

I began the trip by filling up the car with gas and grabbing a large Coke. All went well for the first couple hours. Around midnight, though, I started to get weary. I thought to myself, "How in the world am I going to make it all night when I am already exhausted?" My ego told me I could do it. Besides, what choice did I have?

Several times I dosed off, but the rumble strips on the side of the road woke me up before I did any damage. However, I couldn't shake the nagging feeling of, "What if there had been a car beside me and I ran them off the road? What if the car had been a family on their way to a fall vacation?" I tried all the tricks. I drank more caffeine, ate chocolate, turned up the radio, rolled down the windows and chewed ice. Finally, at 3:30 a.m., I'd had enough. My tricks weren't working any longer, so I exited the highway, found a well-lit parking lot, set my alarm for 3:55 and took a nap. I calculated that I could sleep for 20 minutes and still make my report time.

Fortunately, this story has a happy ending. I arrived at the training site just in time to check into my quarters, shave, change into my uniform and report into class right at 7:30 a.m. But this story could easily have ended in tragedy. What if I had run off the road and injured or killed myself or, even worse, hurt or killed someone else? Would it have been worth it? Would my wife have said, "Well, my husband is dead, but at least the grass got cut." Would the kids have said, "Dad's in a wheelchair, but it's OK — he got the pool cover on."

At the time, I felt as if I had no choice. But there is always a choice. I could have swallowed my pride and left some of those projects undone. I could have called the head of the course I was attending, explained the situation and arrived a few hours later. Sure, it worked out this time, but will it next time? Would I gamble with my life again? I don't think so.

TEACH FROM OUR MISTAKES

CHIEF WARRANT OFFICER 2 JUSTIN BIELSS
C Company, 2-149th MEDEVAC
Forward Operating Base Salerno, Afghanistan

We should not just learn from our mistakes, but also teach from them. Mistakes are a common occurrence for all of us and can be as small as leaving our CAC in a computer to forgetting to close out a fuel check. Some mistakes could even result in a Class A accident.

Being human not only guarantees we will make mistakes, but that we will continue to make them in the future. So why is our first reaction to making a mistake to try and cover it up? Yes, mistakes are embarrassing and we, as professionals, do not like to announce our fallacies. But why should we be the only ones to learn from our mistakes? I feel it is our obligation to share them with others so they can learn from them too. It might save someone's life.

Early in my aviation career when I was an OH-58A/C crew chief, I learned a valuable lesson. When I was TDY on a mission working on -58s, one of the veteran aviators, a Vietnam-era pilot with more than 30 years and thousands of flight hours, shared a mistake he had made.

He had departed single pilot in route to the TDY location. Shortly after takeoff, he realized the airspeed indicator was not operating properly because it indicated only 15 knots when he knew he was traveling much faster. He quickly began to assess the situation to determine the issue. While crosschecking his instruments and running through possible reasons in his mind, it occurred to him what had happened. He leaned forward in the seat, looked at the nose of the aircraft and saw the cover was still attached to the Pitot tube. After landing at a nearby airport and removing the cover, all was well.

He was alone in the aircraft and could have kept the mistake to himself, but he chose to share it. He realized mistakes happen, and if we don't share them, others could make the same mistakes.

Hearing about a simple mistake this seasoned aviator made had a tremendous impact on me. It changed how I not only view mistakes I make, but also how I view those others make. It taught me that I too should be able to share my mistakes — no matter how embarrassing they may be — so others might possibly avoid them in the future. It is vital that we, as professionals and leaders, encourage others to share their mistakes and experiences because if we do not we are missing a valuable training opportunity.

Later in my career, after becoming a pilot flying OH-58A/Cs, I always thought of that seasoned aviator's mistake when I performed my preflight. It served as a good reminder to always remove the Pitot tube cover. I was fortunate enough to learn this lesson early in my career. Now, I always teach from the mistakes I make so I am not the only one learning from them.

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STAYING FIT TO FIGHT

SGT. 1ST CLASS OSCAR ROSALEZ
25th Combat Aviation Brigade
Wheeler Army Airfield, Hawaii

One mile, no sweat, two miles, better yet! I bet that cadence echoes around installations every day as Soldiers conduct physical training. For Soldiers in the 25th Combat Aviation Brigade, 6:30 a.m. marks the beginning of our duty day, and PT is how we get it started.

All units need their Soldiers to be physically fit and ready to go at a moment's notice. When conducted properly, PT is an integral part of training that allows us to accomplish missions in the most demanding environments.

As the brigade safety noncommissioned officer, I manage all of the battalions' Army ground accident reports. I also have a direct link to the brigade's medical station that handles unit sick call. They send me a report of what's ailing Soldiers. When I started receiving the reports, I was surprised to learn that more than 50 percent of Soldier injuries and accidents were exercise related, not only on duty, but off duty as well. Don't get me wrong; Soldiers doing PT on their own is a good thing. The trend that concerned me is Soldiers aren't taking the proper precautions — both on and off duty — to protect themselves from injuries.

Organized PT requires us to run, jump, push, pull and lift. In most cases, even if a Soldier is on a profile and exempt from certain exercises, they are still required to participate. More often than not, they are pushed to their limits. Unfortunately, I've witnessed cases where there's been no forethought into the type of exercises executed and inadequate supervision to ensure they were conducted correctly. The instructors of these exercises are usually fit and healthy Soldiers, and there's no limit to the type of exercise they may require us to do. They come up with exercises they believe will get us in better shape and help us pass a PT test.

But here's a fact that's often overlooked — not all Soldiers are built the same or have the same strength or stamina. Heavy Soldiers cannot run those longer distances and are subject to injuries while attempting to complete the run. How many times have you seen someone fall out of a run and get left behind to finish alone? Those Soldiers are subject to injury. They are tired and not focusing on the road or what's ahead of them, but they know they have to finish.

We lift water cans, tires, logs and even our own buddies for PT. Soldiers sometimes lack the ability to lift heavy objects; they strain and hurt themselves when attempting to these exercises. Do we NCOs, leaders, take into account that some Soldiers aren't as strong as us and may need extra supervision to get to the point of being able to lift heavy objects? We need to understand that a PT program tailored to our Soldiers' abilities is the best way to get them in shape, sustain their fitness level and keep them safe.

Soldiers need to understand there's risk associated with PT and sports activities both on and off duty. They should take into account the weather, surf reports, running routes and underlying factors that may hurt them or their friends. Leaders must ensure Soldiers understand and use the risk management process to identify hazards during any type of physical activity.

Soldiers will do the right thing when leaders encourage and teach them what right looks like. Not all Soldiers jump in with an attitude of leaping before they look. We can ensure that our Soldiers are physically and mentally ready if we take the time and mentor them. With our guidance and leadership, we can help reduce the number of injuries on and off duty. After all, having healthy and physically fit Soldiers benefits everyone.

OFF-ROAD MOTORCYCLING AND ATV SAFETY

AMERICAN ORTHOPAEDIC SOCIETY FOR SPORTS MEDICINE
www.sportsmed.org

Off-road motorized recreation with motorcycles or four-wheel all-terrain vehicles has gained rapid increases in popularity. Riders of all ages are learning to tour backcountry and race competitively in a wide variety of venues. Due to the high speeds, potential for injury can be high. However, injuries can be reduced in number and magnitude by following some basic safety principles. Preparation is the key to a safe, enjoyable ride.

Get in Shape for Off-Road Activity

A common misconception is that "the bike does all the work." One must prepare for the ride by engaging in a pre-ride fitness program. Cardiovascular training is critical. Many riders will use bicycling on the road or trails to prepare themselves for their competition. Strength training with emphasis on the large hip and leg muscles, trunk stabilizers and grip strength enhance the rider's ability to control the dirt bike for extended periods. For beginning riders, training should consist of a general endurance, strength and flexibility program conducted several days per week. Do not ride to get in condition, be in condition to ride.

Competitive riders should perform cardio training (jogging, treadmill, etc.) off the dirt bike at least five hours per week and weight train three days per week. Flexibility programs before every session on or off the bike can better prepare and increase the effectiveness of the training session. Working with a personal trainer knowledgeable in these sports and a techniques coach can increase a rider's performance significantly.

Ride at Your Own Skill Level

Skill preparation and training can decrease injury potential and magnitude. Beginning riders should strongly consider a formal program such as those developed by the Motorcycle Safety Foundation and supported by major motorcycle and ATV manufacturers (see www.dirtbikeschool.org). One must ride within one's own skill level. Initial training should be in open fields, dirt lots or dirt roads or trails.

Motocross tracks should be for more experienced riders. Individual tracks may have mini, veteran and main tracks for various levels of riders. The rider should ride on a track appropriate for his skill. Tracks should be evaluated for their commitment to safety with trained flaggers, fences and on-site medical personnel. Children must always be supervised. When a rider desires to begin racing, he should obtain additional training and knowledge of racing techniques and rules prior to the first competition.

Protect Yourself from Injury

Protective equipment designed specifically for the sport and the individual must be worn whenever one is on the bike. The body should be protected from head to toe. When any item of protective gear is damaged, it must be replaced or repaired. MSF schools will provide equipment and bikes for the lessons, allowing beginning riders to experience the sport without needing to purchase equipment.

The helmet should be designed for the sport with full-face coverage, including chin protection. The helmet should be worn at all times one is on the bike or on the track. Certification by the Snell Foundation ensures a quality helmet. Children's helmets should be of the new design, not just mini-adult helmets. If a helmet is damaged in any way, it should be replaced. Most manufacturers will check a helmet for integrity following a crash. Buying a used helmet is not recommended. Mouth guards are helpful to prevent dental and jaw injuries and may decrease head injury severity. Eye protection with sport-specific goggles should always be worn with the helmet.

The upper extremities and chest should be protected with a long-sleeved jersey, elbow pads and gloves. The chest, shoulder and upper arms should be protected with a polycarbonate chest protector with shoulder and arm extensions. An alternative device is an under-jersey garment with protective cups and pads. Most riders will also wear a supportive lumbar spine (lower back) wrap.

The lower extremities can be well protected with motocross pants with hip and coccyx (tailbone) pads. The knees should be supported with a functional knee brace with a patellar (kneecap) cup. These braces come in many forms and prices and are available from local motorcycle dealers, by mail order or from your orthopaedic surgeon. High boots designed for off-road riding should be worn by both dirt bike and ATV riders. They should fit well and be secured prior to starting the machine.

Additional protective equipment, such as neck rolls, custom knee braces and wrist braces, are sometimes used but their effectiveness in preventing or reducing injury has not yet been determined.

Keep Your Equipment in Top Shape

The vehicle must also be well prepared and suited for the event. Riders should choose a bike or ATV appropriate for their age, size and experience level. Most states will not allow children under 16 to ride larger bikes and ATVs. A pre-ride inspection is always performed including inspection of the tires and wheels; inspection of controls, lights and electric as equipped; oil and other fluids; and inspection of the chassis, including the suspension and drive chain. Maintenance of the bike should be performed regularly to prevent catastrophic failure.

Off-road riding is a fun recreational and competitive sport enjoyed by increasing numbers of male and female athletes of all ages. Although injuries do occur, their frequency and severity can be decreased by improving the rider's fitness and skill level, using the proper protective equipment, making the correct bike choice and maintaining it in excellent condition, and riding within one's own ability.

Editor's note: Reprinted with permission from the American Orthopaedic Society for Sports Medicine.

A SIMPLE MISSION?

CHIEF WARRANT OFFICER 2 JASON GREENE
B Company, 2nd Battalion, 3rd Aviation Regiment,
3rd Combat Aviation Brigade
Hunter Army Airfield, Ga.

It was another hot afternoon in the eastern part of Afghanistan known to many as RC-East, where the temperature can exceed 120 F in the summer. My unit was tasked with providing two CH-47D Chinook helicopters to transport 40 personnel from Kabul to Bagram Airfield. This was supposed to be a simple mission, but as everyone knows, there is no such thing.

Crew mixes were selected based on flight hours. I was the most junior pilot on the flight with about 400 hours. My pilot in command/air mission commander who was a major had more than 1,500 hours. The crewmembers in Chalk 2 were all experienced on the aircraft, one being the platoon sergeant/flight engineer, a squad leader/flight engineer, a very seasoned crew chief and the battalion flight surgeon who was riding in the jump seat.

At about 12:30 p.m., we headed to the aircraft to perform our pre-mission checks so we could accomplish a 1:30 p.m. departure. At 1:25 p.m., I gave Chalk 1 a radio call, and he called the tower for departure. Ten minutes into the flight and after frequency changing with tower, I announced to the crew I'd be inside performing a cruise check. We were flying at about 1,000 feet above ground level at 110 knots indicated airspeed.

One minute into my check, I felt the aircraft vibrating excessively. I immediately looked up and saw we were flying directly behind and a little bit lower than Chalk 1. Every pilot knows this is a big no-no when flying formation in any helicopter. Needless to say, I looked at the major and then the other aircraft two or three times. Then, as soon as I was about to ask him if he could go left or right, same level or higher, he made an input and the aft end of the Chinook swung around past the front.

I reached for the flight controls and tried to get the aircraft back under control. The aft end then went vertical where I could actually see the ground through the greenhouse windows. The inertia reels locked, preventing us from getting to the advanced flight control system control switch. We both fought on the controls for what seemed like minutes, but actually only about 15-20 seconds. When it was all said and done, we'd managed to get the aircraft under control where we were facing the opposite direction of flight. I was then told to call Chalk 1 and inform them that we were returning to base because of possible flight control malfunction.

During the incident, the crew chief on the ramp was tossed out the back but managed to pull himself back in with his monkey tail. The FE who was at the right door — who wasn't wearing his seat belt but had his monkey harness connected — was tossed into the heater closet, while the other FE on the left gun stayed restrained in his seat. One of the craziest things about this event was that Chalk 1 had a passenger onboard who was actually recording us but had turned off the camera just prior to the incident.

After we returned to Bagram, we had the maintenance test pilot check out the aircraft, and he could not find anything wrong. There were no injuries, but because of this event, everyone onboard, including the flight surgeon, was done flying for the rotation. The incident was also reported up the chain, where some speculated that it was the winds off the mountains or just problems with the AFCS.

A couple of weeks after the investigation, a report came out stating that the integrated lower control arms weren't getting enough voltage, which caused the system to perform erratically. To this day, I still think our position in reference to Chalk 1 played a part in the incident. This was supposed to be a simple mission but, as everyone knows, there is no such thing.

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ARE YOU EXPERIENCED?

THOMAS E. IRVIN
1st Brigade, 14th Aviation Regiment
Fort Rucker, Ala.

I began riding motorcycles at the age of 12. For me, that's 28 years and 15 motorcycles ago. I've always considered myself an experienced and safe rider because of the time I have invested in motorcycles — that is until I took my last Motorcycle Safety Foundation-approved Experienced RiderCourse.

I started out riding unapproved trails on a 350cc dual-purpose motorcycle without professional training or personal protective equipment. At that time, I couldn't kick-start my own motorcycle or reach the ground with both feet, so I always took off from a picnic table bench. Safety was never a concern for me because I learned to ride unsupervised and no one ever instructed me of its importance. Without realizing it, I had created the perfect accident setting from the beginning.

When I was finally old enough to obtain a license to ride on the street, I promptly went to the Department of Motor Vehicles and took the test. Still, I continued to ride motorcycles well above my experience level and without PPE. About a year later, I had my first street accident, and because I came away unscathed, I kept riding as I had in the past. It wasn't until my second street accident a year later that I had learned the importance of PPE. It was a painful lesson, as the accident left me with severe road rash on my right shoulder.

By the time I joined the Army, I had eight years of "riding experience" but was still ordered to attend the MSF-approved Basic RiderCourse. For the first time, I was formally educated on the importance of motorcycle training and the required PPE. To attend the riding portion of the course, I had to wear a Department of Transportation-approved motorcycle helmet. I learned that even though the state where I was licensed didn't require me to wear a helmet, the Army required I wear one no matter where I rode. Additionally, I learned the PPE requirements for motorcycles also applied to off-duty and off-post operation. My BRC instruction was the beginning of an attitude change and the start of my formal progressive motorcycle training.

My last ERC motorcycle training, which was mandated by the command, took place after a deployment and was required for Soldiers prior to riding a motorcycle. Realizing motorcycles are an increasingly popular mode of transportation for many Soldiers, my command placed this requirement on the unit to mitigate post-deployment risk. Though much of the ERC was the same as prior training, it did cover some new topics. For example, I learned additional cornering skills that were not covered in my other training, braking techniques from the instructor and other riders, and how to apply the MSF T-CLOCS pre-ride inspection sheet (see **Motorcycle Safety Inspection Checklist** below) to my routine.

Even though I was a long-time rider, this training made me realize I wasn't as skilled as I previously thought and that several of my riding habits were not conducive to safe riding. When it comes to motorcycles, the number of years riding doesn't always equal the correct experience.

Motorcycle Safety Inspection Checklist

The Motorcycle Safety Foundation developed **T-CLOCS** to assist motorcycle drivers in completing a comprehensive pre-ride (or pre-purchase) motorcycle inspection. The individual letters stand for the specific areas to be checked:

Tires and wheels
Controls
Lights
Oil
Chassis
Stand

The **T-CLOCS** inspection should be conducted at least twice a year to ensure safe riding.

Did You Know?

May has been designated as Motorcycle Safety Awareness Month. The National Highway Traffic Safety Administration encourages drivers to become more aware of motorcycles on the road, especially during the warmer, busier summer riding months.

ACCIDENT BRIEFS

AVIATION

ROTARY-WING

UH-60A
Class C

The stabilator was damaged when the aircraft struck a tree as the pilot attempted to avoid a flock of birds.

The aircraft experienced a TGT overtemp condition, which required engine replacement. The No. 2 engine inlet plug was reportedly still in place during start-up.

UAS

MQ-5B
Class A

The system was damaged when it veered off the runway and into a concrete draining ditch.

PUMA
Class C

The system encountered an engine overspeed during new-operator training. The vehicle initiated a rapid descent and struck inside the impact area of the range.

RQ-7B
Class C

The crew experienced failure of the right flap servo during landing. The chute was deployed and the system recovered with damage.

GROUND

ACV
Class A

One civilian was killed and another injured when a Mine Resistant Ambush Protected vehicle collided with their privately owned vehicle. The MRAP was part of a convoy when it turned and impacted the POV. None of the Soldier occupants of the MRAP were injured.

AMV
Class A

A Soldier died after the HMMWV he was driving overturned. The Soldier was attempting to change lanes and lost control of the vehicle. Seat belt use was not reported.

PERSONNEL INJURY

Class A

A Department of the Army Civilian died while participating in an equipment recovery dive.

A Soldier was killed after being stuck by a round from a hand gun. The Soldier was reportedly showing his girlfriend how to use his privately owned weapon when she discharged a round into his upper chest.

Class B

A Department of the Army Civilian was injured while performing maintenance on a Light Medium Tactical Vehicle. The DAC was supporting the drive shaft, with his thumb in the yoke, when it fell and pinched his thumb. His thumb was severed at the first knuckle.

A Soldier was injured while handling fireworks. He was holding a mortar when it ignited in the tube, injuring both his hands, resulting in the partial loss of three fingers.

A Soldier was injured after being struck by a train. He was retrieving his jacket from the track when his leg became pinned by the train. The Soldier lost part of his leg below the knee and alcohol was reported as a contributing factor.

DRIVING

PMV-4
Class A

A Soldier was killed when he was ejected from a vehicle driven by another Soldier.

Editor's note: Information published in the accident briefs section is based on preliminary loss reports submitted by units and is subject to change. For more information on selected accident briefs, email usarmy.rucker.hqda-secarmy.list.safe-knowledge@mail.mil.

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